



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/865,917	05/24/2001	Gianpaolo Barozzi	CISCP677	5323
26541	7590	01/23/2004	EXAMINER	
RITTER, LANG & KAPLAN 12930 SARATOGA AE. SUITE D1 SARATOGA, CA 95070			CHAN, ALEX H	
			ART UNIT	PAPER NUMBER
			2633	

DATE MAILED: 01/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/865,917

Applicant(s)

BAROZZI ET AL.

Examiner

Alex H Chan

Art Unit

2633

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 May 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 May 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4. 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. **Claims 1, 7, 13 and 18 are** rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,903,385 to Sugaya et al (hereinafter Sugaya).

Regarding claims 1, 7, 13 and 18, Sugaya discloses a WDM (Fig. 11) receiver system comprising: an optical amplifier system having variable gain (e.g. level deviation, Col. 2, lines 50-56) and receiving a WDM signal comprising multiple wavelengths (Col. 4, line 67-Col. 5, line 7); a demultiplexer (demultiplexer (not labeled) for demultiplexing signals to corresponding Rx-1, Rx-1...Rx-n of Fig.11 or 21 of Fig. 2) receiving an amplified WDM signal from said optical amplifier system (e.g. via 41 and 47) and separating said amplified WDM signal (via 46-1 to 46-n) into a plurality of single wavelength signals each corresponding to a different WDM channel (Col. 18, lines 46-48 and lines 57-59); a plurality of photodetectors (photodetectors inside 44) monitoring power levels (e.g. by detecting as known in the art) of said plurality of single wavelength signals; and a gain control system (44) that receives power level indications from said plurality of photodetectors and controls a gain of said optical amplifier system such

Art Unit: 2633

that a power level indication based on said output powers monitored by said plurality of photodetectors is set within a desired range (e.g. according to Fig. 3-5 and 10, Col. 7, lines 24-41).

3. **Claims 1, 7, 13 and 18** are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,388,801 B1 to Sugaya et al (hereinafter Sugaya).

Regarding claims 1, 7, 13 and 18, Sugaya discloses a WDM receiver system (Fig. 6 and 8) comprising: an optical amplifier system (via 3 of Fig. 6 and 8, and EDFA of Fig. 8) having variable gain (Fig. 7A and 7B) and receiving a WDM signal comprising multiple wavelengths (Col. 9, line 64-Col. 10, line 2); a demultiplexer (51 of Fig. 6) receiving an amplified WDM signal from said optical amplifier system and separating said amplified WDM signal (via 31_C and 31_L) into a plurality of single wavelength signals each corresponding to a different WDM channel (Col. 10, lines 18-32); a plurality of photodetectors (photodetectors inside 32_C and 32_L of Fig. 6) monitoring power levels (Col. 10, lines 32-35) of said plurality of single wavelength signals; and a gain control system (40 of Fig. 6) that receives power level indications from said plurality of photodetectors and controls a gain of said optical amplifier system such that a power level indication based on said output powers monitored by said plurality of photodetectors is set within a desired range (e.g. according to Fig. 2, 5 and 7A-7B. Col. 10, lines 55-67 and Col.11, lines 38).

Art Unit: 2633

4. **Claims 1, 7, 13 and 18** are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,323,994 B1 to Li et al (hereinafter Li).

Regarding claims 1, 7, 13 and 18, Li discloses a WDM receiver system (Fig. 3) comprising: an optical amplifier system (314) having variable gain (Fig. 4A-4D) and receiving a WDM signal comprising multiple wavelengths (Col. 3, lines 29-32); a demultiplexer (308) receiving an amplified WDM signal from said optical amplifier system and separating said amplified WDM signal into a plurality of single wavelength signals each corresponding to a different WDM channel (Col. 13, lines 36-38); a plurality of photodetectors (680) monitoring power levels (Col. 12, lines 11-21) of said plurality of single wavelength signals; and a gain control system (682) that receives power level indications from said plurality of photodetectors and controls a gain of said optical amplifier system such that a power level indication based on said output powers monitored by said plurality of photodetectors is set within a desired range (e.g. according to Fig. 4A-4D and Fig. 5, Col. 13, lines 12-19).

5. **Claims 1-22** are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 6,049,413 to Taylor et al (hereinafter Taylor)

Regarding claims 1, 7, 13, 15, 18 and 20, Sugaya discloses a WDM (Fig. 12) receiver system comprising: an optical amplifier system having variable gain (e.g. depending on the wavelength, Col. 1, lines 26-43) and receiving a WDM signal comprising multiple wavelengths (via 1204); a demultiplexer (1208) receiving an amplified WDM signal from said optical amplifier system and separating said amplified WDM signal (Col. 8, lines 22-27) into a plurality

Art Unit: 2633

of single wavelength signals each corresponding to a different WDM channel; a plurality of photodetectors (photodetectors inside 1210-1...1210-n) monitoring power levels (via 1212-1...1212-n and Col. 8, lines 27-30) of said plurality of single wavelength signals; and a gain control system (via 1214 and 1216-2 to 1216-5) that receives power level indications from said plurality of photodetectors and controls a gain of said optical amplifier system such that a power level indication based on said output powers monitored by said plurality of photodetectors is set within a desired range (Col. 8, lines 30-45).

Regarding claims 2, 8, 14 and 19, Taylor discloses an average of said output powers monitored by said plurality of photodetectors (e.g. by determining received power levels are substantially equal, Col. 8, lines 30-33 and Col. 12, lines 14-17).

Regarding claims 3 and 9, Taylor discloses desired range corresponds to an optical receiver dynamic range (via attenuators so that received power modules can in turn detect the new optical power levels and supply new power level signal to 1214, Col. 8, lines 40-45).

Regarding claims 4 and 10, Taylor discloses an optical filter (106 of Fig. 8) having dynamically controllable response characteristics, said optical filter receiving input from said

Art Unit: 2633

optical amplifier system (via 104 of Fig. 8 or 1206-5 of Fig. 8) and outputting a filtered optical signal to said demultiplexer (Col. 7, lines 20-63).

Regarding claims 5 and 11, Taylor discloses a tilt control filter (via 1216-1...1216-5 of Fig. 12).

Regarding claims 6, 12, 17 and 22, Taylor discloses the gain control system (1214 and 1216-1 to 1216-5 of Fig. 12) sets a tilt of said tilt control filter (via 1206-1 to 1206-5 of Fig. 12) to reduce a difference in monitored output powers for a highest WDM channel and a lowest WDM channel (e.g. by attenuating high gain wavelengths while passing low gain wavelengths, Col. 1, lines 54-57).

Regarding claims 16 and 21, Taylor discloses all limitations as discussed above, and further discloses filtering (via 1216-1...1216-5 of Fig. 12) said signal including said multiple WDM signals to adjust gain tilt (i.e. gain flattening) among said multiple WDM channels (Col. 5, lines 29-34 and lines 60-62).

Art Unit: 2633

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Izumi discloses an optical amplifier having a demultiplexer, plurality of photodetectors and gain control circuit as well as a variable tilt generator (Fig. 4, 5 and 11). Kang et al is cited to show a demultiplexer, plurality of photodetectors for monitoring power of optical signals (Fig. 4). Kosaka is cited to show an optical amplifier having a demultiplexer, plurality of photodetectors (Fig. 4 and 8) having variable gain (Fig. 7). Kosaka et al (Fig. 13, 14, 19 and 27), Strasser et al (Fig. 9 and 11), Terahara (Fig. 5-6 and 24-25), Saunders (Fig. 3) and Lagerstrom et al (Fig. 1 and 5-6) are cited to demonstrate an optical amplifier having a gain control unit for monitoring and adjusting optical powers.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alex H Chan whose telephone number is (703) 305-0340. The examiner can normally be reached on Monday to Friday (8am to 6pm EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (703) 305-4729. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Alex Chan
Patent Examiner, AU 2633
January 13th, 2004



JASON CHAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600